

Work Order ID 129611

129611

Page 1

Thursday, February 19, 2015 2:05:45 PM

Item ID: D4796-1 Accept *N900040100* Setup Start *NS1*

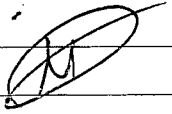
Revision ID: Stop *NS2*

Item Name: Bearpaw

Start Date: 2/23/15 Start Qty: 8.00 *8* Cust Item ID:

Required Date: 3/06/15 Req'd Qty: 8.00 *8* Customer:

Reference:

Approvals: Process Plan:  Date: 15-2-19 Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4796	B								

120 0.00

120

Waterjet

FLOW CNC Waterjet

OH MW

FLOW WATER JET

Memo

Cut Blank as per D4796-1_blank File

0.00

8

15/02/27

130

130

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Inspect material for defects or damage prior to machining

2-Machine as per FolioFB178 and Dwg

FOLIO REV: B

DWG REV: B

3-Deburr

0.00

0.00

8

0

DAS

44

9-89

15/03/06

DAS

20

9-89

15-03-08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129611

Thursday, February 19, 2015 2:05:45 PM

129611

Page 2

Item ID: D4796-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Bearpaw

Start Date: 2/23/15

Start Qty: 8.00

8

Cust Item ID:

Required Date: 3/06/15

Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

QC2- Inspect parts off machine FAI/FAIB

0.00

140

QC

Memo

0.00

Quality Control

DAS
44
9-89
15/03/06
DAS
20
9-89
15-03-08

150

QC8- Inspect parts - second check

0.00

150

QC

Memo

0.00

Quality Control

DAS
14
9-89

151

Identify as per dwg & Stock Location: _____

0.00

151

Packaging

Memo

0.00

Packaging

PP129609

MAR 10 2015

DAS
96
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129611***129611***

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Thursday, February 19, 2015 2:05:45 PM

Item ID: D4796-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bearpaw

Start Date: 2/23/15

Start Qty: 8.00

8

Cust Item ID:

Required Date: 3/06/15

Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLS 15-03-11

MS-3-11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Transport									
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		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Picklist Print

Thursday, February 19, 2015 2:05:50 PM

Page 1

Work Order ID: 129611

129611

Parent Item: D4796-1

D4796-1

Parent Item Name: Bearpaw

Start Date: 2/23/15

Required Date: 3/06/15

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP REV:A NEW ISSUE 13-03-25 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MUHMWB10

Purchased

No

sf

170.8895

45

MUHMWB10

**

02/15/02/27

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

Location

Loc Qty

Loc Code

MAT018

170.8895

m128092

1.7225

m131335

169.167

131661

824 50

DQA: _____ Date: _____



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FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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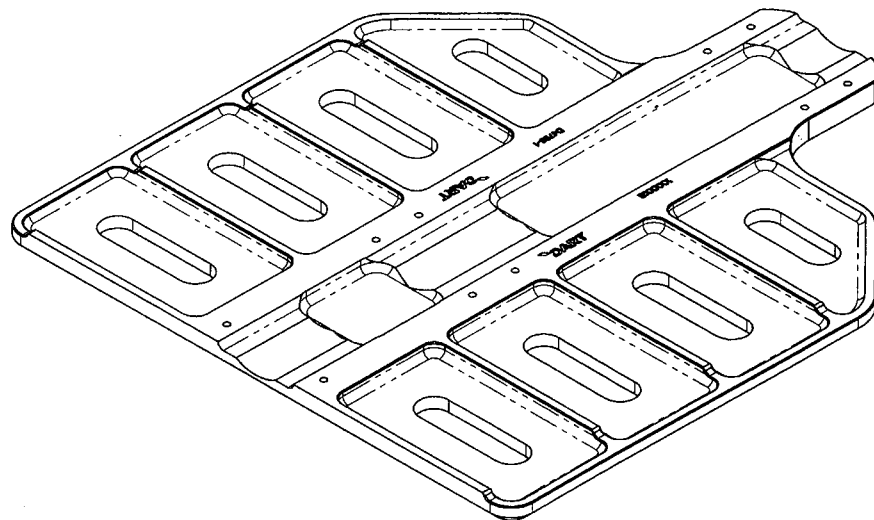
DART AEROSPACE LTD		Work Order: 129611
Description: Bearpaw		Part Number: D4796-1
Inspection Dwg: D4796	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

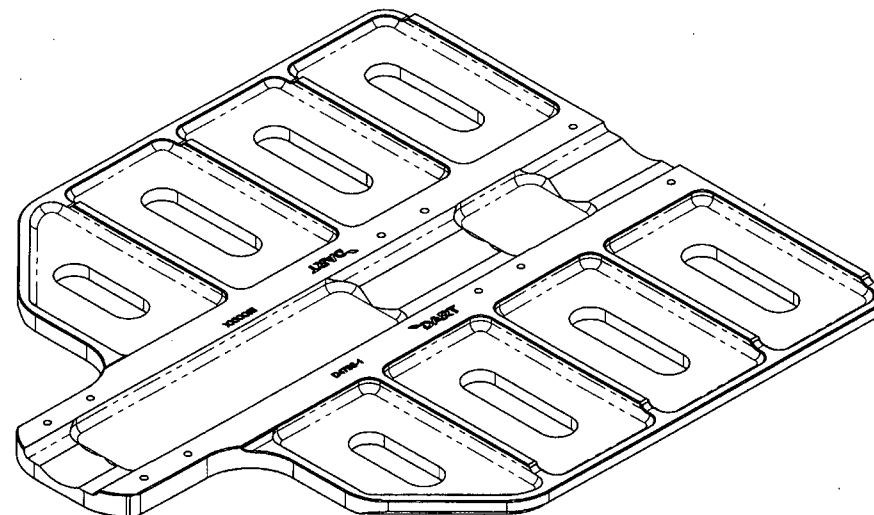
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.95	+/-0.030	0.946	/		Vern	FK-04
0.74	+/-0.030	0.736	/		"	"
0.46	+/-0.030	0.456	/		"	"
0.30 x 45°	+/-0.030 x +/-0.5°	0.290 x 45°	/		"	"
0.38	+/-0.030	0.377	/		"	"
2.76	+/-0.030	2.761	/		"	"
3.93	+/-0.030	3.93	/		"	"
0.38	+/-0.030	0.380	/		"	"
5.00	+/-0.030	5.00	/		"	"
10.20	+/-0.030	10.20	/		Tape	FK-05
1.38	+/-0.030	1.38	/		FK-04	Vern
5.63	+/-0.030	5.628	/		"	"
27.00	+/-0.030	27.00	/		Tape	FK-05
2.000	+/-0.005	2.000	/		Vern	FK-08
6.935	+/-0.005	6.935	/		"	"
0.91	+/-0.030	0.902	/		"	"
4.540	+/-0.005	4.540	/		"	"
24.00	+/-0.030	24.00	/		Tape	FK-05
0.24	+/-0.030	0.241	/		Vern	FK-04
3.60	+/-0.030	3.600	/		"	"
R0.25	+/-0.030	0.25	/		R-G-	
0.50	+/-0.030	0.494	/		Vern	FK-08
6.40	+/-0.030	6.40	/		"	"
3.52	+/-0.030	3.510	/		"	"
0.040 x 45°	+/-0.010 x +/-0.5°	0.040 x 45°	/		"	"
Ø0.261	+0.006/-0.001	0.260	/		"	"
0.650	+/-0.030	0.649	/		"	"
0.07 x 45°	+/-0.030 x +/-0.5°	0.07 x 45°	/		"	"
DAS			DAS			

Measured by: 44 9-89	Audited by: 14 9-89	Preliminary Approval:
Date: 15/03/06	Date: 15/03/11	Date:

Rev	Date	Change	Revised by	Approved
A	14.05.06	New Issue	KJ	



D4796-1 BEARPAW

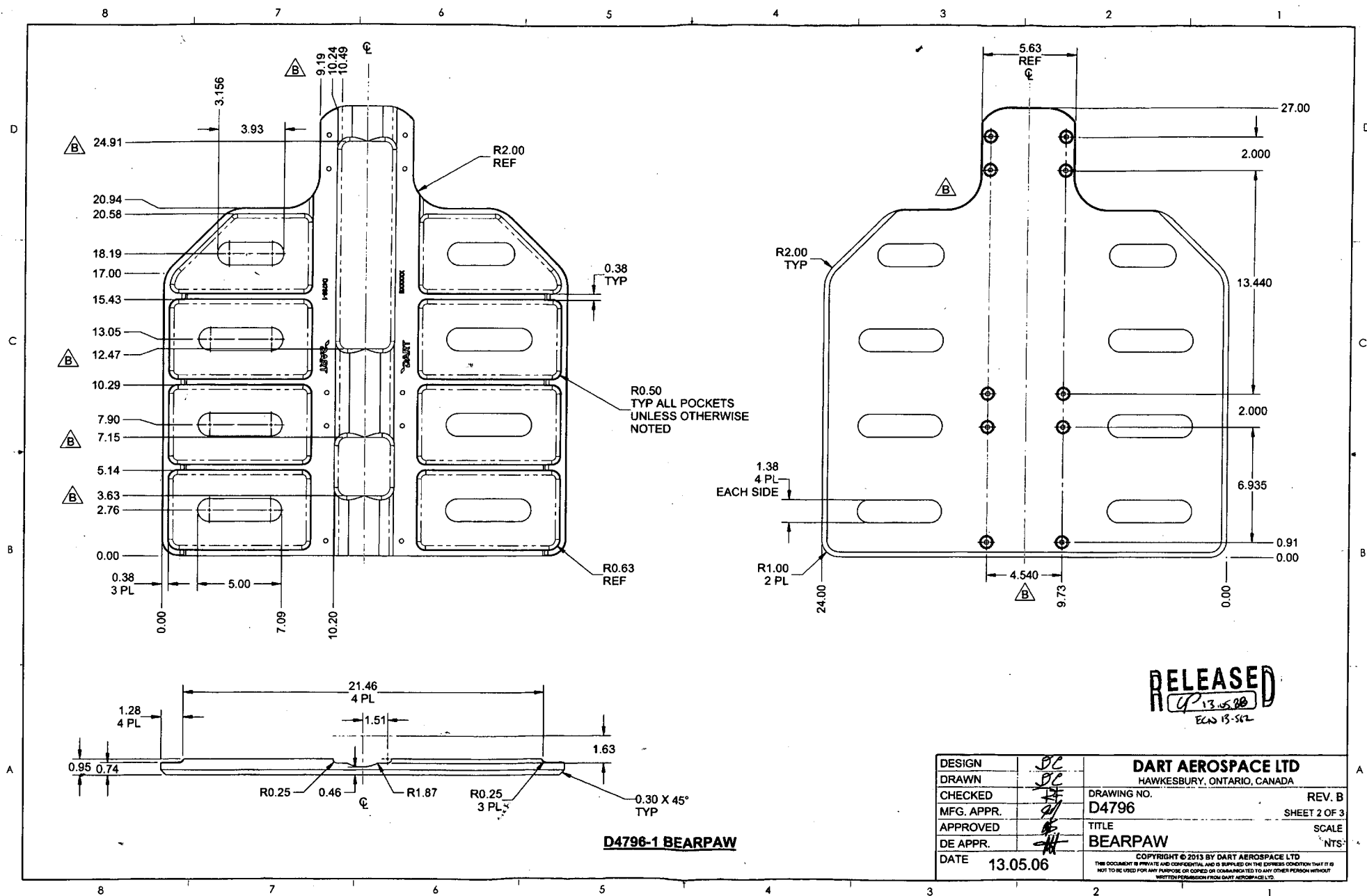


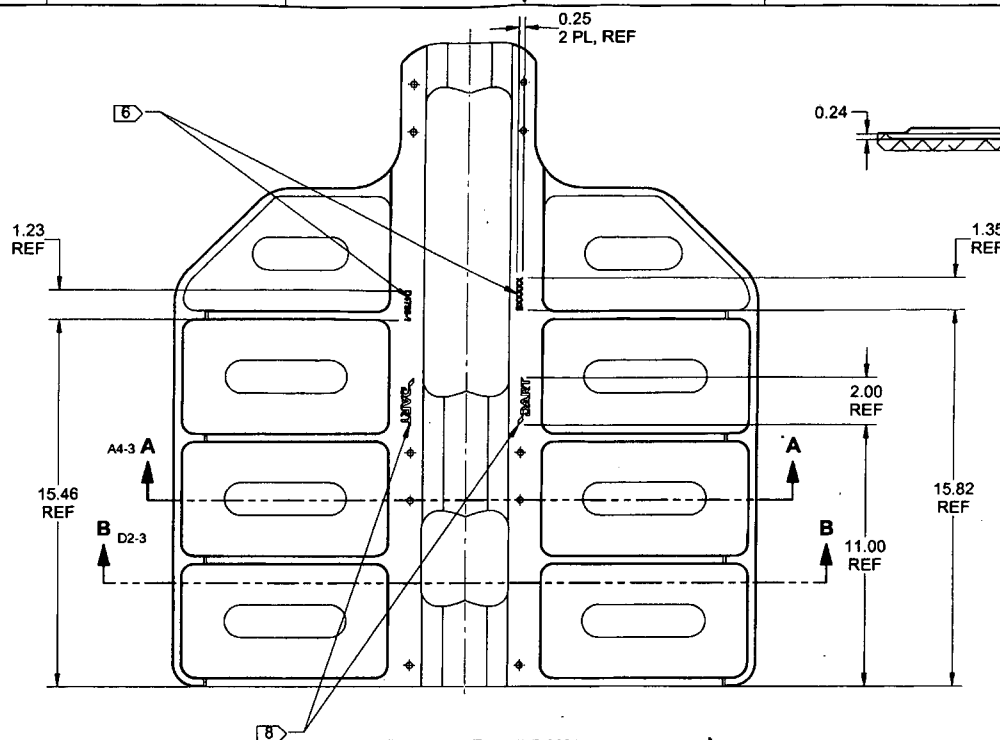
RELEASED
13.05.06
ECN 13-362

- NOTES:**
- 1) MATERIAL: BLACK UHMW TIVAR 1000 VIRGIN MATERIAL SHEET, 1.00 THICK
REF DART SPEC MUHMWB10
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.3 0.010 - 0.012 DP WITH A MINIMUM 0.010 RAD
 - 7) WEIGHT: 9.59 lbs
 - 8) ENGRAVE "DART" LOGO AS SHOWN 0.010 - 0.012 DP WITH A MINIMUM 0.010 RAD

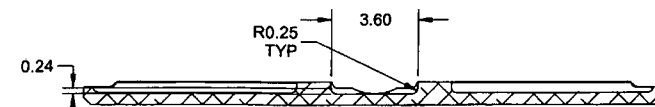
Handwritten: 15.2-19
12964

B	MODIFIED SHAPE. MOVE HOLES FROM 4.938 TO 4.54 APART. ZN B2-2. ADD POCKETS FOR SKIDTUBE, ZN B6-2, C6-2. ADD SECTION B-B, ZN D2-3.	DC	13.05.06
A	NEW ISSUE	DC	13.03.19
REV.	DESCRIPTION	BY	DATE
DESIGN	DC		
DRAWN	DC		
CHECKED	EF		
MFG. APPR.	EF		
APPROVED	EF		
DE APPR.	EF		
DATE	13.05.06		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4796 REV. B BEARPAW SHEET 1 OF 3 SCALE NTS COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

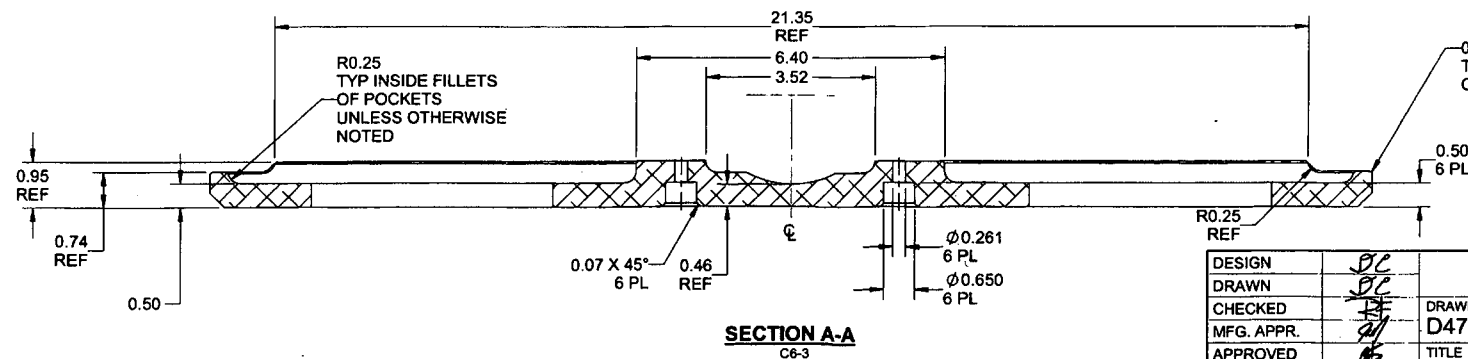




D4796-1 BEARPAW
(SUPPLEMENTAL VIEW)



SECTION B-B
C6-3



SECTION A-A
C6-3

RELEASED
13.05.06
ECN 13-562

DESIGN	DC	DART AEROSPACE LTD	
DRAWN	DC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DC	DRAWING NO. D4796	REV. B
MFG. APPR.	DC		SHEET 3 OF 3
APPROVED	DC	TITLE BEARPAW	SCALE
DE APPR.	DC		NTS
DATE	13.05.06	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	